

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.07.2014

version no: 2


Revision: 30.07.2014

SECTION 1: Identification of the substance/mixture and of the company/undertaking


- . **1.1 Product identifier**
- . **Trade name:** Hardener for Fixers and Stop baths
- . **Article number:** 101038
- . **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- . **Application of the substance / the mixture** Fixing bath for photographic use
- . **1.3 Details of the supplier of the safety data sheet**
- . **Manufacturer/Supplier:**
TETENAL Europe GmbH
Schützenwall 31-35
D-22844 Norderstedt / Germany
Phone: ++49 (0) 40 521 45-0; Fax: +49 (0) 40-52145-296
www.tetenal.com; E-Mail: info@tetenal.com


- TETENAL Ltd.,
2 Meridian West, Meridian Business Park, Leicester LE19 1WX
Phone: 0116 - 289 3644; E-Mail: uk@tetenal.com; www.tetenaluk.com
- . **Further information obtainable from:** Department environment and safety. E-Mail: info@tetenal.com
- . **1.4 Emergency telephone number:** Poison Information Centre Berlin (Germany): +49 (0) 30 - 30686 790

SECTION 2: Hazards identification

- . **2.1 Classification of the substance or mixture**
- . **Classification according to Regulation (EC) No 1272/2008**
-  GHS05

- Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

- . **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
-  Xi; Irritant
- R38-41: Irritating to skin. Risk of serious damage to eyes.
- . **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- . **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- . **2.2 Label elements**
- . **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- . **Hazard pictograms**
-  GHS05
- . **Signal word** Danger

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.07.2014

version no: 2

Revision: 30.07.2014

Trade name: Hardener for Fixers and Stop baths

(Contd. of page 1)

. Hazard-determining components of labelling:

aluminium sulphate

. Hazard statements

H314 Causes severe skin burns and eye damage.

. Precautionary statements

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local regulations.

. 2.3 Other hazards

. Results of PBT and vPvB assessment

. PBT: Not applicable.



. vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

. 3.2 Chemical characterization: Mixtures

. Description: Mixture of substances listed below and with nonhazardous additions.

. Dangerous components:

CAS: 64-19-7 EINECS: 200-580-7 Index number: 607-002-00-6 Reg.nr.: 01-2119475328-30	acetic acid  C R35 R10 Flam. Liq. 3, H226; Skin Corr. 1A, H314	10-<25%
CAS: 10043-01-3 EINECS: 233-135-0	aluminium sulphate  Xi R41 Eye Dam. 1, H318	10-<25%

. Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

. 4.1 Description of first aid measures

. General information: Immediately remove any clothing/shoes soiled by the product.

. After inhalation:

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air; consult doctor in case of complaints.

. After skin contact: Immediately wash with water and soap and rinse thoroughly.

. After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

. After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.

. 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

. 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

EN

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.07.2014

version no: 2

Revision: 30.07.2014

Trade name: Hardener for Fixers and Stop baths

(Contd. of page 2)

SECTION 5: Firefighting measures

- . **5.1 Extinguishing media**
- . **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- . **5.2 Special hazards arising from the substance or mixture**
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- . **5.3 Advice for firefighters**
- . **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- . **6.1 Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation
- . **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- . **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Pick up mechanically.
- . **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- . **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- . **Information about fire - and explosion protection:** No special measures required.
- . **7.2 Conditions for safe storage, including any incompatibilities**
- . **Storage:**
- . **Requirements to be met by storerooms and receptacles:** No special requirements.
- . **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
- . **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Store under lock and key and out of the reach of children.
Recommended storage temperature: 5-25 °C
- . **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- . **Additional information about design of technical facilities:** No further data; see item 7.
- . **8.1 Control parameters**

. **Ingredients with limit values that require monitoring at the workplace:**

64-19-7 acetic acid (10-<25%)

IOELV (EU) Long-term value: 25 mg/m³, 10 ppm

(Contd. on page 4)

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 30.07.2014

version no: 2

Revision: 30.07.2014

Trade name: Hardener for Fixers and Stop baths

(Contd. of page 3)

PEL (USA)	Long-term value: 25 mg/m ³ , 10 ppm
REL (USA)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
TLV (USA)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
10043-01-3 aluminium sulphate (10-<25%)	
REL (USA)	Long-term value: 2 mg/m ³ as Al
TLV (USA)	Long-term value: 1* mg/m ³ as Al;*as respirable fraction

. **Additional information:** The lists valid during the making were used as basis.

. **8.2 Exposure controls**

. **Personal protective equipment:**

. **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

. **Respiratory protection:** Ensure adequate ventilation

. **Protection of hands:**



Protective gloves

Impervious gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

. **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Butyl rubber, BR

Nitrile rubber, NBR

Neoprene gloves

. **Penetration time of glove material**

Glove material	breakthrough-time	layer thickness
----------------	-------------------	-----------------

Butyl rubber:	>480 min	≥0,4mm
---------------	----------	--------

Nitrile rubber:	>480 min	≥0,38mm
-----------------	----------	---------

Neoprene:	>240 min	≥0,65mm
-----------	----------	---------

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

. **Eye protection:**



Tightly sealed goggles

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.07.2014

version no: 2

Revision: 30.07.2014

Trade name: Hardener for Fixers and Stop baths

. **Body protection:** Protective work clothing

(Contd. of page 4)

SECTION 9: Physical and chemical properties

. 9.1 Information on basic physical and chemical properties

. General Information

. Appearance:

Form:	Fluid
Colour:	Colourless
Odour:	Pungent

. pH-value at 20 °C: 2

. Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: > 100 °C

. Flash point: Not applicable.

. Ignition temperature: 485 °C

. Self-igniting: Product is not selfigniting.

. Danger of explosion: Product does not present an explosion hazard.

. Explosion limits:

Lower:	4.0 Vol %
Upper:	17.0 Vol %

. Vapour pressure at 20 °C: 23 hPa

. Density at 20 °C: 1.14 g/cm³

. Solubility in / Miscibility with water:

Fully miscible.

. Solvent content:

Organic solvents:	15.3 %
Water:	>60 %

. 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

. 10.1 Reactivity

. 10.2 Chemical stability

. **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

. **10.3 Possibility of hazardous reactions** Reacts with acids, alkalis and oxidizing agents.

. **10.4 Conditions to avoid** No further relevant information available.

. **10.5 Incompatible materials:** No further relevant information available.

. **10.6 Hazardous decomposition products:** Irritant gases/vapours

EN

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.07.2014

version no: 2

Revision: 30.07.2014

Trade name: Hardener for Fixers and Stop baths

(Contd. of page 5)

SECTION 11: Toxicological information

. 11.1 Information on toxicological effects

. Acute toxicity:

. LD/LC50 values relevant for classification:

64-19-7 acetic acid

Oral	LD50	3310 mg/kg (rat)
Dermal	LD50	1130 mg/kg (rabbit)
Inhalative	LC50	1h: 5620 mg/L (mou)

. Primary irritant effect:

- . **on the skin:** Irritant to skin and mucous membranes.
- . **on the eye:** Strong irritant with the danger of severe eye injury.

. Sensitization: No sensitizing effects known.

. Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Corrosive
Irritant

SECTION 12: Ecological information

. 12.1 Toxicity

. Aquatic toxicity:

64-19-7 acetic acid

LC50	24h: >100 mg/L (daphnia magna (Großer Wasserfloh))
	96h: >1000 mg/L (fish (acute toxicity study))
	96h: 75 mg/L (Lepomis macrochirus)
	24h: 106 mg/L (Pimephales promelas)

. 12.2 Persistence and degradability No further relevant information available.

. 12.3 Bioaccumulative potential No further relevant information available.

. 12.4 Mobility in soil No further relevant information available.

. Additional ecological information:

. General notes:

Do not allow product to reach ground water, water course or sewage system.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

. 12.5 Results of PBT and vPvB assessment

. PBT: Not applicable.

. vPvB: Not applicable.

. 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

. 13.1 Waste treatment methods

. Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

. European waste catalogue

09 01 04	fixer solutions
----------	-----------------

(Contd. on page 7)

EN

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 30.07.2014

version no: 2



Revision: 30.07.2014

Trade name: Hardener for Fixers and Stop baths

(Contd. of page 6)

- . **Uncleaned packaging:**
- . **Recommendation:** Disposal must be made according to official regulations.
- . **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|--|
| . 14.1 UN-Number | |
| . ADR, IMDG, IATA | UN2790 |
| . 14.2 UN proper shipping name | |
| . ADR | 2790 ACETIC ACID SOLUTION |
| . IMDG, IATA | ACETIC ACID SOLUTION |
| . 14.3 Transport hazard class(es) | |
| . ADR | |
| |  |
| . Class | 8 (C3) Corrosive substances. |
| . Label | 8 |
| <hr style="border-top: 1px dashed #000;"/> | |
| . IMDG, IATA | |
| |  |
| . Class | 8 Corrosive substances. |
| . Label | 8 |
| . 14.4 Packing group | |
| . ADR, IMDG, IATA | III |
| . 14.5 Environmental hazards: | |
| . Marine pollutant: | No |
| . 14.6 Special precautions for user | Warning: Corrosive substances. |
| . Danger code (Kemler): | 80 |
| . EMS Number: | F-A,S-B |
| . Segregation groups | Acids |
| . 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| <hr style="border-top: 1px dashed #000;"/> | |
| . Transport/Additional information: | |
| . ADR | |
| . Limited quantities (LQ) | 5L |
| . Excepted quantities (EQ) | Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml |
| . Transport category | 3 |
| . Tunnel restriction code | E |

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.07.2014

version no: 2

Revision: 30.07.2014

Trade name: Hardener for Fixers and Stop baths

(Contd. of page 7)

. IMDG

. Limited quantities (LQ)

5L

. Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

. UN "Model Regulation":

UN2790; ACETIC ACID SOLUTION; 8; III

SECTION 15: Regulatory information

. 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

. 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

. Relevant phrases

H226 Flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

R10 Flammable.

R35 Causes severe burns.

R41 Risk of serious damage to eyes.

. Contact: e-mail: sida@tetenal.com

. Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

. * Data compared to the previous version altered.